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ORIGINAL ARTICLE

Taxonomic revision of the subfamily Meloinae (Coleoptera: Meloidae) from Xizang, China, with description of a new species

Zhao Pan, Guodong Ren*

The Key Laboratory of Zoological Systematics and Application, College of Life Sciences, Hebei University, Baoding, Hebei 071002, P. R. China; E-mails: panzhao86@yeah.net, gdren@hbu.edu.cn
**Corresponding author, E-mail: gdren@hbu.edu.cn*

Abstract The subfamily Meloinae from Xizang of China is revised: totally 8 genera and 34 species are recorded; *Meloe* (*Meloe*) *scabrus* **sp. nov.** is described and illustrated as new to science; *Mylabris* (*Chalcabris*) *bistillata* Tan, 1981, **stat. rev.** is transferred from *Hycleus*; and a key to the species is presented. Three species, *Lytta battonii* Kaszab, 1962, *Lytta kryzhanovskyi* Kaszab, 1962 and *Hycleus cichorii* (Linnaeus, 1758), were wrongly recorded in Xizang.

Key words Tenebrionoidea, blister beetles, taxonomy, new species, Xizang.

1 Introduction

The Meloinae, the most diverse subfamily of the Meloidae, are worldwide distributed except Oceania (Bologna *et al*., 2010). There currently are 7 tribes, 75 genera and ca. 2000 species described in the world, and 5 tribes, 14 genera and 164 species in China.

Xizang Autonomous Region is the main part of Qinghai-Xizang Plateau. Before 1980s, several entomologists studied meloid beetles from this region, e.g. Fairmaire (1886, 1889, 1894), Blair (1927), Kaszab (1952b, 1956, 1962) *etc*. In 1981, Prof. Tan recorded 5 genera and 17 species of Meloinae from Xizang, including 1 new genus and 4 new species. After that, she recorded 4 genera and 4 species from Mt. Namjagbarwa of Xizang (Tan, 1988). Totally, there are 6 genera and 19 species of Meloinae from Xizang (Wang *et al.*, 2003).

In recent years, two genera, *Hycleus* and *Pseudabris* were revised by the authors group (Pan *et al.*, 2011, 2013), respectively. In this paper, the checklist of the Xizang Meloinae were updated to 8 genera, 34 species, including a new species, *Meloe* (*Meloe*) *scabrus* **sp. nov.**, and a first record species for Xizang, *Epicauta* (*Epicauta*) *sibirica* (Pallas, 1773). Additionally, three species, *Lytta battonii* Kaszab, 1962, *Lytta kryzhanovskyi* Kaszab, 1962 and *Hycleus cichorii* (Linnaeus, 1758), were wrongly recorded in Xizang.

2 Materials and methods

Nomenclature of morphological structures follows Bologna (1991), Bologna & Pinto (2002), and Lawrence & Ślipiński (2013). Figures of morphological details were drawn by hand, using a Nikon SMZ1500 stereomicroscope equipped with a camera lucida. Photographs of adult habitus were taken with a Canon EOS 5D Mark III connected to a Canon Macro lens

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EF 100 mm.

The following abbreviations are used in the text:
BMNH—The Natural History Museum, London, U.K.;
CAU—China Agricultural University, Beijing, China;
CWNU—China West Normal University, Nanchong, China;
HNHM—Hungarian Natural History Museum, Budapest, Hungary;
IZCAS—Chinese Academy of Science, Institute of Zoology, Beijing, China;
LSUK—Linnean Society, London, U.K.;
MAB—Marco A. Bologna collections, University of "Roma Tre", Rome, Italy;
MHBU—Museum of Hebei University, Baoding, China (MHBUa, preserved in alcohol 95%);
MHNL—Museum d'Histoire Naturelle de Ville de Lille, Lille, France;
MIZT—University of Torino, Torino, Italy;
MNHN—Muséum National d'Histoire Naturelle, Paris, France;
MZH—Finnish Museum of Natural History, Helsinki, Finland;
NHMW—Naturhistorisches Museum Wien, Wien, Austria;
NXU—Ningxia University, Yinchuan, China;
NZSI—Zoological Survey of India, National Zoological Collection, Calcutta, West Bengal, India;
SJZZ—Shijiazhuang Zoo, Shijiazhuang, China;
TNJM—National Justice Museum, Trondheim, Norway;
ZIN—Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia;
ZMHB—Museum für Naturkunde der Humboldt-Universität, Berlin, Germany;
ZMUC—University of Copenhagen, Zoological Museum, Copenhagen, Denmark;
ZMUM—Moscow State University, Moscow, Russia;
ZSM—Zoologische Staatssammlung München, Munich, Germany.

3 Taxonomy

Subfamily Meloinae Gyllenhal, 1810

Melooides Gyllenhal, 1810: 481. Type genus: *Meloe* Linnaeus, 1758.

Distribution. Worldwide (except Oceania).

Key to the species of the subfamily Meloinae from Xizang of China.

1. Dorsal blade of tarsal claws with two rows of teeth along ventral margin (fig. 89 in Bologna & Pinto, 2002) (*Denierella*) ..... ***Denierella minutiserra* Tan**
   Dorsal blade of tarsal claws smooth along ventral margin 2
2. Profemora with apical half of ventral surface slightly excavated, excavation with a patch of appressed, transversely directed silky pubescence (fig. 79 in Bologna & Pinto, 2002) (*Epicauta*) 3
   Profemora without excavation as above and lacking a patch of pubescence 6
3. Head mostly reddish, but black on inner marginal area of eyes at least; male antennomeres IV–VII evidently widened on external side (Fig. 4); male protibiae each with two spurs ..... ***Epicauta sibirica* (Pallas)**
   Head totally reddish except clypeus and labrum; male antennomeres IV–VII sub-filiform, not widened; male protibiae each with only one inner spur 4
4. Pronotum usually with median line formed by short gray setation; usually with gray setation on exterior and apical margins of each elytrum (Fig. 3); male protarsomere I modified, conspicuously sinuate on inner side, and concave smooth ..... ***Epicauta interrupta* (Fairmaire)**
   Pronotum and elytra without gray setation on positions as above (Figs 2, 5); male protarsomere I not modified 5
5. Male antennomeres (except XI) with black long setae ..... ***Epicauta hirticornis* (Haag-Rutenberg)**
   Male antennomeres without long setae ..... ***Epicauta wellmani* Kaszab**
6. Elytra reduced, and hindwing absent 7
   Elytra well developed, hindwing exist 16
7. Elytra extremely reduced, widely separated immediately at base; ventral blade of claws setiformed (*Oreomeloe*) ..... ***Oreomeloe spinulus* Tan**
   Elytra not so reduced, not separated at very base (Figs 14–16); ventral blade of claws normal shaped (*Meloe*) 8

8. Pronotum less than 2/3 as long as wide (Fig. 14) 9
   Pronotum at least 4/5 as long as wide (Figs 15–16) 10
9. Frons with a pair of transverse sub-oval-shaped depression on sides of central; pronotum without sub-rounded depression on lateral side each ..... ***Meloe asperatus* Tan**
   Frons without depression on center; pronotum with one sub-rounded depression on lateral side each ..... ***Meloe servulus* Bates**
10. Male antennomeres V–VII geniculate and distorted; female middle antennomeres thickened 11
    Male antennomeres V–VII unmodified 15
11. Punctuation on head and pronotum irregular and large, diameter more than distance among punctures (Fig. 29) 12
    Punctuation on head and pronotum small, diameter less than distance among punctures 13
12. Frons only with few punctures on center, much sparser than other parts of head; pronotum slightly longer than width (Fig. 29), with a shallow depression on center of disk, basal margin conspicuously sinuates in middle; mesonotum triangularly stretch out, clearly visible (Fig. 29); male antennomere VII with similar width but longer than VI, VI positioned almost on center of V in dorsal view (Figs 26–27); parameres of male genitalia with three sub-rounded yellow spots on center (Fig. 30) ..... ***Meloe scabrus* sp. nov.**
    Frons with punctures similar than other parts of head; pronotum as long as wide (fig. 132d in Bologna, 1991), without depression, basal margin not conspicuously sinuate in middle; posterior margin of mesonotum almost straight, not triangularly stretched out, nearly invisible; male antennomere VII shorter and narrower than VI, VI positioned on external part of V in dorsal view (figs 132a, c in Bologna, 1991); parameres without yellow spots on ventral surface ..... ***Meloe proscarabaeus proscarabaeus* Linnaeus**
13. Pronotum without transverse depression at base; anterior half of pronotum conspicuously convex; body length usually less than 10 mm ..... ***Meloe modestus* Fairmaire**
    Pronotum with a transverse depression at base; pronotum almost flat, slightly convex at most; body length usually more than 10 mm 14
14. Pronotum without wide depression on center; pronotal length similar to width; lateral sides of pronotum gradually narrowed from middle to base; parameres of male genitalia without any yellow spots on center; dorsal hooks of penis small ..... ***Meloe subcordicollis* Fairmaire**
    Pronotum with a sub-rounded shallow depression on center; pronotum conspicuously longer than wide; lateral sides of pronotum abruptly narrowed from middle to base; parameres with an irregular yellow spot on center; distal hooks of penis large ..... ***Meloe auriculatus* Marseul**
15. Body length 6–10 mm; pronotal disk without sub-rounded depression on center of basal half ..... ***Meloe elegantulus* Semenov & Arnoldi**
    Body length ca. 30 mm; pronotal disk with a sub-rounded depression on center of basal half (fig. 1 in Tan, 1988) ..... ***Meloe medogensis* Tan**
16. Antennae with segments slightly to distinctly widened to apex; mesosternum with a distinctly modified anterior “scutum” (figs 66–69 in Bologna & Pinto, 2002) 17
    Antennae not widened to apex; mesosternum uniform, without a differentiated anterior area (*Lytta*) 28
17. Mesosternum with a longitudinal, furrowed carina, continuous anteriorly with mesepisterna (fig. 5 in Pan *et al*., 2013); pronotum subhexagonal with angulate sides (fig. 1 in Pan *et al*., 2013); male parameres with elongate setae apically (fig. 8 in Pan *et al*., 2013) (*Pseudabris*) 18
    Mesosternum without such a carina; pronotum shape variable but not as above; male parameres usually without elongate setae apically 23
18. Elytral black lateral border which separates first yellow transverse fascia from external margin of elytra, very narrow (figs 6d–f in Pan *et al*., 2013); depression on vertex, posterior to red frontal spot, shallow; temples sub-rounded; longitudinal depression in middle of mesosternal carina narrow; external side of male protibia only with short setae 19
    Elytral black lateral border which separates first yellow transverse fascia from external margin of elytra, wide (figs 6a–c, g in Pan *et al*., 2013); depression on vertex deep; temples obliquely widened behind eyes; longitudinal depression in middle of mesosternal carina wide; external side of male protibial with some long setae mixed with short 21
19. Frons with a wide and slightly deep depression in middle; fore margins of mesepisterna forming a median groove slightly wide, margins almost parallel along median groove and posteriorly diverging (fig. 5e in Pan *et al*., 2013); scutellum slightly depressed in middle; dorsal margin of parameres abruptly sinuate and narrowed in a short lobe in ventral view (fig. 8e in Pan *et al*., 2013) ..... ***Pseudabris przewalskyi* (Dokhtouroff)**
    Frons with a narrow, sub-longitudinal and deep depression in middle; median groove of mesepisterna wide, margins diverging almost from base (figs 5d, f in Pan *et al*., 2013); middle surface of scutellum with a deep, transverse ditch in middle of depression; dorsal margin of parameres abruptly sinuate and narrowed in a long lobe in ventral view (figs 8d, f in Pan *et al*., 2013) 20
20. Elytra usually without black spots on first yellow-red fascia, middle and posterior yellow fasciae very reduced (fig. 6d in Pan *et al*., 2013); surface of pronotum with dense punctures; surface of dorsal blade of claws meshed (easily visible with a scanning electron microscope) (fig. 7c in Pan *et al*., 2013) ..... ***Pseudabris longiventris* (Blair)**
    Elytra with numerous black spots on first yellow-red fascia, middle and posterior yellow fasciae very extended (fig. 6f in Pan *et al*., 2013); surface of pronotum with sparse and fine punctures; surface of dorsal blade of claws with smaller meshes not so clearly visible (fig. 7e in Pan *et al*., 2013) ..... ***Pseudabris regularis* Pan & Bologna**

21. Setae on dorsal surface of head very long; depression between temples and middle of vertex moderately deep; length/width ratio of antennomere XI less than 2; pronotum with three small depressions in middle of disk; elytra almost covering tip of abdomen; setae on external side of male protarsomere I distinctly longer than those of inner side..... ***Pseudabris hingstoni* (Blair)**
Setae on dorsal surface of head quite short; depression between temples and middle of vertex deep and evidently distinguishing two portions of head; length/width ratio of antennomere XI more than 2; pronotum with a wide depression in middle of disk; elytra not completely covering last two abdominal tergites; setae on external side of male protarsomere I as long as those of inner side.....22
22. Setae on pronotum and base of elytra long; median groove of mesepisterna narrow, drop-shaped, margins sinuate and posteriorly diverging (fig. 5c in Pan *et al*., 2013); length of male metatarsus I versus IV more than 1.5; apical lobe of parameres progressively narrowed to a slender lobe in ventral view (fig. 8c in Pan *et al*., 2013) ..... ***Pseudabris latimaculata* Pan & Bologna**
Setae on pronotum and base of elytra short; median groove of mesepisterna slightly wide, margins almost parallel along median groove and afterwards diverging (fig. 5g in Pan *et al*., 2013); length of male metatarsus I versus IV less than 1.5; apical lobe of parameres suddenly sinuate and narrowed to a short lobe in ventral view (fig. 8g in Pan *et al*., 2013) ..... ***Pseudabris tigriodera* Fairmaire**
23. Mesepisterna with a relatively wide and distinctly furrowed anterior border area (figs 66–67 in Bologna & Pinto, 2002); pronotum with a very fine median furrow and depression at center of disk (*Hycleus*).....24
Mesepisterna with anterior edge sometimes narrowly grooved, without a wide and furrowed anterior border area; pronotum without a fine median furrow at center of disk (*Mylabris*).....27
24. Elytral yellow-reddish fasciae with mixed yellow and black setae ..... ***Hycleus cichorii* (Linnaeus)**
Elytral yellow-reddish fasciae with black setae only, except axillary spot with yellow setae in some species 25
25. Elytral axillary spot with black setae only ..... ***Hycleus phaleratus phaleratus* (Pallas)**
Elytral axillary spot with few yellow setae mixed to black setae.....26
26. Pronotal anterior depression inconspicuous; setae on dorsum of male protarsi not distinctly longer than on other surfaces; protarsi and maxillary palpi black; proximal penial hook close to distal one (fig. 6J in Pan *et al*., 2011)..... ***Hycleus dorsetiferus* Pan, Ren & Wang**
Pronotal anterior depression distinct; setae on dorsum of male protarsi longer than on other surfaces; protarsi and maxillary palpi usually yellow-brown, black only in few individuals from S China; proximal penial hook relatively far from distal one (fig. 8J in Pan *et al*., 2011) ..... ***Hycleus medioinsignatus* (Pic)**
27. Only one yellow-reddish sub-drop shaped spot on base of each elytron, axillary area without any spot or fascia; body with blue metallic reflections..... ***Mylabris bistillata* Tan**
One yellow-reddish transverse narrow fascia on base of each elytron, reaching axillary area; body without blue reflections ..... ***Mylabris macilenta* Marseul**
28. Anterior angles of pronotum red, remains black (Fig. 9) ..... ***Lytta rubrinotata* Tan**
Pronotum unicolored, black or red.....29
29. Pronotum orange-red; head orange-red on basal half, but black on apical half (Fig. 13); male mesotibiae each lacking inner spur; male protarsomeres I and II strongly distorted, modified for clasping..... ***Lytta taliana* Pic**
Pronotum and head black; male mesotibiae each with two spurs or lacking outer spur; male protarsomere II not modified.....30
30. Elytra red-brown, unicolor (Fig. 6) ..... ***Lytta fissicollis* (Fairmaire)**
Elytra bicolored, black with yellow-reddish longitudinal fascia, or yellow-red with black longitudinal fascia (Figs 8–12).....31
31. Elytra yellow-red, with black longitudinal fascia, but not reaching base and apex of elytra (Figs 8–9); male protibiae each with two spurs; male metatrochanters spined.....32
Elytra black, with yellow-reddish longitudinal fascia, wide or narrow, reaching both base and apex of elytra (Figs 10–12); male protibiae each with only inner spur; male metatrochanters not modified.....33
32. Punctation on head and pronotum very small and sparse, almost invisible, diameter far less than distance among punctures; pronotum with a deep transverse depression on subapical area..... ***Lytta satiata* Escherich**
Punctation on head and pronotum large and dense, diameter more than distance among punctures; pronotum flat, without subapical transverse depression ..... ***Lytta selanderi* Saha**
33. The median yellow-reddish longitudinal fascia conspicuously wider than black longitudinal fasciae on lateral sides (Fig. 12); antennomere IV slightly longer than III ..... ***Lytta sifanica* Semenov**
The median yellow-reddish fascia conspicuously narrower than black fasciae (Figs 10–11); antennomere IV shorter than III 34
34. Punctation on head and pronotum small, almost invisible on pronotum; pronotum with one deep sub-rounded depression on each lateral side..... ***Lytta battonii* Kaszab**
Punctation on head and pronotum large and rough; pronotum usually without depressions on lateral sides 35
35. Body without blue-green metallic shine; punctation on head and pronotum sparse and regular..... ***Lytta kryzhanoskyi* Kaszab**
Body with blue-green metallic shine; punctation on head and pronotum very dense and irregular 36
36. Pronotal width/length ratio more than 2; dorsal hooks of male penis different in shape (fig. 4 in Kaszab, 1962) ..... ***Lytta roborowskyi* (Dokhtouroff)**
Pronotal width/length ratio less than 2; dorsal hooks of male penis similar in shape (fig. 5 in Kaszab, 1962)..... ***Lytta bieti* Wellman**

3.1 Genus *Denierella* Kaszab, 1952

Denierella Kaszab, 1952a: 81. Type species: *Cantharis incomplete* Fairmaire, 1896, by original designation.

Distribution. Southeast Asia.

***Denierella minutiserra* Tan, 1988** (Fig. 1)

Denierella minutiserra Tan, 1988: 291. Type locality: Beibeng, Mêdog, Xizang, China. Type depository: IZCAS.

Material examined from Xizang. 2 exs., Mêdog County, Yadong Village, 2013.VIII.1, Xinglong Bai & Junsheng Shan leg. (MHBU).

Distribution. China: Xizang (Yang & Ren, 2007b; Bologna, 2008) (Mêdog (MHBU; Tan, 1988; Wang *et al*., 2003; Batelka & Hájek, 2015)), Guangxi, Yunnan; India; Nepal.

3.2 Genus *Epicauta* Dejean, 1834

Epicauta Dejean, 1834: 224. Type species: *Meloe erythrocephalus* Pallas, 1771, by subsequent designation (Werner, 1945: 425).

Distribution. Worldwide (except Oceanica).

3.2.1 Subgenus *Epicauta* Dejean, 1834

Epicauta Dejean, 1834: 224. Type species: *Meloe erythrocephalus* Pallas, 1771, by subsequent designation (Werner, 1945: 425).
Causima Dejean, 1834: 226. Type species: *Lytta vidua* Klug, 1825, by original designation, by monotypy.
Henous Haldeman, 1852: 377. Type species: *Henous techanus* Haldeman, 1852 (= *Meloe conferta* Say, 1824), by original designation, by monotypy.
Isopentra Mulsant & Rey, 1858: 180. Type species: *Lytta megalocephala* Gebler, 1817, by subsequent designation (Werner, 1945: 426).
Pleuropompha LeConte, 1862: 273. Type species: *Lytta costata* LeConte, 1854, by original designation, by monotypy.
Nomaspis LeConte, 1866: 156. Type species: *Meloe parvus* Haldeman, 1852: 337 (= *Meloe parvulus* Haldeman, 1854), by original designation, by monotypy.
Anomalonyx Denier, 1935: 161 (homonym). Type species: *Lytta fumosa* Germar, 1824, by original designation.
Anomalonychus Saylor, 1940: 46 (replacement name). Type species: *Lytta fumosa* Germar, 1824, by original designation.
Maculicauta Dillon, 1952: 416. Type species: *Epicauta stuarti* LeConte, 1868, by original designation.

Distribution. Worldwide (except Oceanica).

***Epicauta* (*Epicauta*) *hirticornis* (Haag-Rutenberg, 1880)** (Fig. 2)

Lytta hirticornis Haag-Rutenberg, 1880: 79. Type locality: “Assam: Atkinson” (India). Type depository: ZSM.
Epicauta hirticornis: Borchmann, 1917: 76.
Epicauta kwangsiensis Tan, 1958: 166. Type locality: Baishou, Guangxi, China. Type depository: IZCAS. Synonymized by Kaszab, 1960: 257.
Epicauta hirticornis ab. *afra* Kaszab, 1960: 257. Type locality: “Yunnan: Yuili” (China). Type depository: IZCAS.
Epicauta (*Epicauta*) *hirticornis*: Bologna, 2008: 373.

Material examined from Xizang. None.

Distribution. China: Xizang (Yang & Ren, 2007a; Bologna, 2008) (Mêdog (Tan, 1981; Wang *et al*., 2003)), Fujian, Henan, Guangdong, Guangxi, Hainan, Sichuan, Yunnan, Taiwan; Japan; Vietnam; India.

***Epicauta* (*Epicauta*) *interrupta* (Fairmaire, 1889)** (Fig. 3)

Lytta interrupta Fairmaire, 1889: 48. Type locality: “Atentsé, Thibet” (Xizang, China). Type depository: MNHN.
Epicauta desgodinsi Frivaldszky, 1892: 115. Type locality: “Tibet: Jarkalo” (Xizang, China). Type depository: HNHM. Synonymized by Kaszab, 1952b: 578.
Epicauta interrupta: Kaszab, 1952b: 578.
Epicauta (*Epicauta*) *interrupta*: Bologna, 2008: 373.

Material examined from Xizang. 3 exs., Gonjo, Xiangpi (31°03.544′N, 98°13.160′E; elev. 3758 m), 2016.VIII.8, Xiumin Li *et al*. leg. (MHBUa); 2 exs., Markam County, Naxi (29°01.470'N, 98°36.652'E; elev. 2558 m), 2015.VIII.8, Guodong Ren *et al*. leg. (MHBU); 3 exs., Qamdo, 2004.VI.9, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Fairmaire, 1889; Frivaldszky, 1892; Borchmann, 1917; Kaszab, 1952b; Bologna, 2008) (Gonjo (MHBUa), Markam (MHBU; Tan, 1981; Wang *et al*., 2003), Qamdo (MHBU; Tan, 1981; Wang *et al*., 2003)),

Sichuan, Yunnan.

***Epicauta* (*Epicauta*) *sibirica* (Pallas, 1773)** (Fig. 4)
Meloe sibirica Pallas, 1773: 720. Type locality: “Sibiria” (Russia). Type depository: destroyed by fire.
Meloe pectinata Goeze, 1777: 701. Type locality: “Sibiria” (Russia). Type depository: unknown. Synonymized by Schoenherr, 1817: 26.
Lytta dubia Fabricius, 1781: 329. Type locality: “Sibiria” (Russia). Type depository: ZMUC.
Cantharis dubia: Olivier, 1795: 283.
Lytta sibirica: Dejean, 1821: 75.
Cantharis sibirica: Fischer, 1827: 21.
Epicauta sibirica: Dejean, 1834: 225.
Lytta chinensis Laporte, 1840: 274. Type locality: “Chine” (China). Type depository: lost.
Epicauta chinensis: Motschulsky, 1854: 48.
Epicauta dubia: Mulsant & Rey, 1858: 172.
Cantharis chinesis: Gemminger & Harold, 1870: 2148.
Epicauta (*Epicauta*) *chinensis*: Bologna, 2008: 372. Synonymized by Liu *et al.*, 2016: 361.
Epicauta (*Epicauta*) *dubia*: Bologna, 2008: 373. Synonymized by Liu *et al.*, 2016: 361.
Epicauta (*Epicauta*) *sibirica*: Bologna, 2008: 374.

Material examined from Xizang. 1 ex., Qüxü, 2002.VII.6, Guodong Ren leg. (MHBU).

Distribution. China: Xizang (Qüxü (MHBU)), Beijing, Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Jiangsu, Zhejiang, Anhui, Shandong, Henan, Sichuan, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Taiwan; Mongolia; Russia; Korea; Japan; Kazakhstan.

Remarks. The species is firstly recorded from Xizang, China.

***Epicauta* (*Epicauta*) *wellmani* Kaszab, 1956** (Fig. 5)
Epicauta wellmani Kaszab, 1956: 636. Type locality: “Assam: Khasi Hills” (India). Type depository: BMNH.
Epicauta (*Epicauta*) *wellmani*: Bologna, 2008: 374.

Material examined from Xizang. 1 ex., Hanmi, Mêdog (29°22.117′N, 95°17.718′E; elev. 2250 m), 2015.VIII.14, J.Y. Wang & Y.S. Zhao leg. (presented by Dr. Hu Li of CAU, deposited in MHBU).

Distribution. China: Xizang (Bologna, 2008) (Mêdog (MHBU)); India.

3.3 Genus *Lytta* Fabricius, 1775
Lytta Fabricius, 1775: 260. Type species: *Meloe vesicatorius* Linnaeus, 1758, by subsequent designation (Wellman, 1910b: 392).

Distribution. Worldwild (except Africa and Oceanica).

3.3.1 Subgenus *Asiolytta* Kaszab, 1962
Asiolytta Kaszab, 1962: 295. Type species: *Lytta badakschanica* Kaszab, 1958, by original designation.

Distribution. Central Asia, “Himalayas”.

***Lytta* (*Asiolytta*) *fissicollis* (Fairmaire, 1886)** (Fig. 6)
Cantharis fissicollis Fairmaire, 1886: 350. Type locality: “Yunnan” (China). Type depository: MNHN.
Lytta fissicollis: Borchmann, 1917: 94.
Lytta (*Poreospasta*) *fissicollis*: Kaszab, 1962: 296.
Lytta (*Asiolytta*) *fissicollis*: Shapovalov, 2016: 99.

Material examined from Xizang. 1 ex., Bayi, Nyingchi (elev. 3350 m), 2008.VII.12, Guodong Ren *et al.* leg. (MHBU).

Distribution. China: Xizang (Bologna, 2008; Wang *et al*., 2014) (Baxoi (Tan, 1981, 1988; Wang *et al*., 2003), Bomi (Tan, 1988), Chag’yab (Tan, 1981, 1988; Wang *et al*., 2003), Nyingchi (MHBU), Qamdo (Wang *et al*., 2003), Xigazê (Tan, 1981, 1988; Wang *et al*., 2003)), Henan, Sichuan, Guizhou, Yunnan, Shaanxi, Gansu.

***Lytta* (*Asiolytta*) *satiata* Escherich, 1904** (Fig. 7)
Lytta poeciloptera var. *satiata* Escherich, 1904: 31. Type locality: “Ost-Turkestan, Khotan-Gebirge” (Xinjiang, China). Type depository: ZMHB.

Lytta (*Asiolytta*) *satiata*: Kaszab, 1962: 296.
Lytta (*Asiolytta*) *selanderi*: Wang *et al*., 2014: 46–47 (wrong identification).

Material examined from Xizang. 1 ex., Gyaca County, Lasui Village (29°03.894′N, 92°27.936′E; elev. 3500 m), 2009. VII.29, Guodong Ren *et al.* leg. (MHBU).

Distribution. China: Xizang (Gyaca (MHBU; Wang *et al*., 2014)), Xinjiang; Tajikistan.

Remarks. Wang *et al.* (2014) confused the identification between *L. satiata* and *L. selanderi*. In their work, one "*L. selanderi*" and four "*L. satiata*" specimens are checked (the latter specimens is not listed in their paper). We rechecked the materials, and found the true identification should be exchanged.

***Lytta* (*Asiolytta*) *selanderi* Saha, 1979** (Fig. 8)

Lytta selanderi Saha, 1979: 98 (doubtful assignment). Type locality: "India: Uttar Pradesh, Garhwal dist., Joshimath Kumar Chatte". Type depository: NZSI.
Lytta (*Asiolytta*) *selanderi*: Bologna, 2008: 378.
Lytta (*Asiolytta*) *satiata*: Wang *et al*., 2014: 46 (key), 49 (list) (wrong identification).

Material examined from Xizang. 4 exs., Burang, 2004.VII.12–13, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Burang (MHBU; Wang *et al*., 2014)); India.

Remarks. The species was wrongly identified as *L. satiata* by Wang *et al.* (2014) (see remarks of *L. satiata*). Meanwhile, the validity of this species needs be confirmed, as well as its subgeneric assignment.

3.3.2 Subgenus *Eolytta* Shapovalov, 2016

Eolytta Shapovalov, 2016: 100. Type species: *Cantharis luteovittata* Kraatz, 1882, by original designation.

Distribution. The Middle and Central Asia.

Remarks. The monophyly of this subgenus is doubtful. Shapovalov (2016) erected the subgenus including seven species. Among them, the male genitalia of *L. kabakovi* Kaszab and *L. laeta* Waterhouse are conspicuously different to *L. luteovittata* (Kraatz) and *L. skrylniki* Shapovalov by having a big tooth at apical half of dorsal margin of parameres in latera view (figs 30, 33 vs figs 24, 27 in Shapovalov, 2016), which is not a common feature in Meloidae. Therefore, the above four species maybe belong to two distinct subgenera or groups.

***Lytta* (*Eolytta*) *rubrinotata* Tan, 1981** (Fig. 9)

Lytta rubrinotata Tan, 1981: 409, 414. Type locality: Diyamayang, Zanda, Xizang, China. Type depository: IZCAS.
Lytta (*Poreospasta*) *rubrinotata*: Bologna, 2008: 379.
Lytta (*Eolytta*) *rubrinotata*: Shapovalov, 2016: 100.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008; Wang *et al*., 2014) (Zanda (Tan, 1981; Wang *et al*., 2003)), Xinjiang.

3.3.3 Subgenus *Lytta* Fabricius, 1775

Lytta Fabricius, 1775: 260. Type species: *Meloe vesicatorius* Linnaeus, 1758, by subsequent designation (Wellman, 1910b: 392).

Distribution. Asia, Europe.

***Lytta* (*Lytta*) *bieti* Wellman, 1912** (Fig. 10)

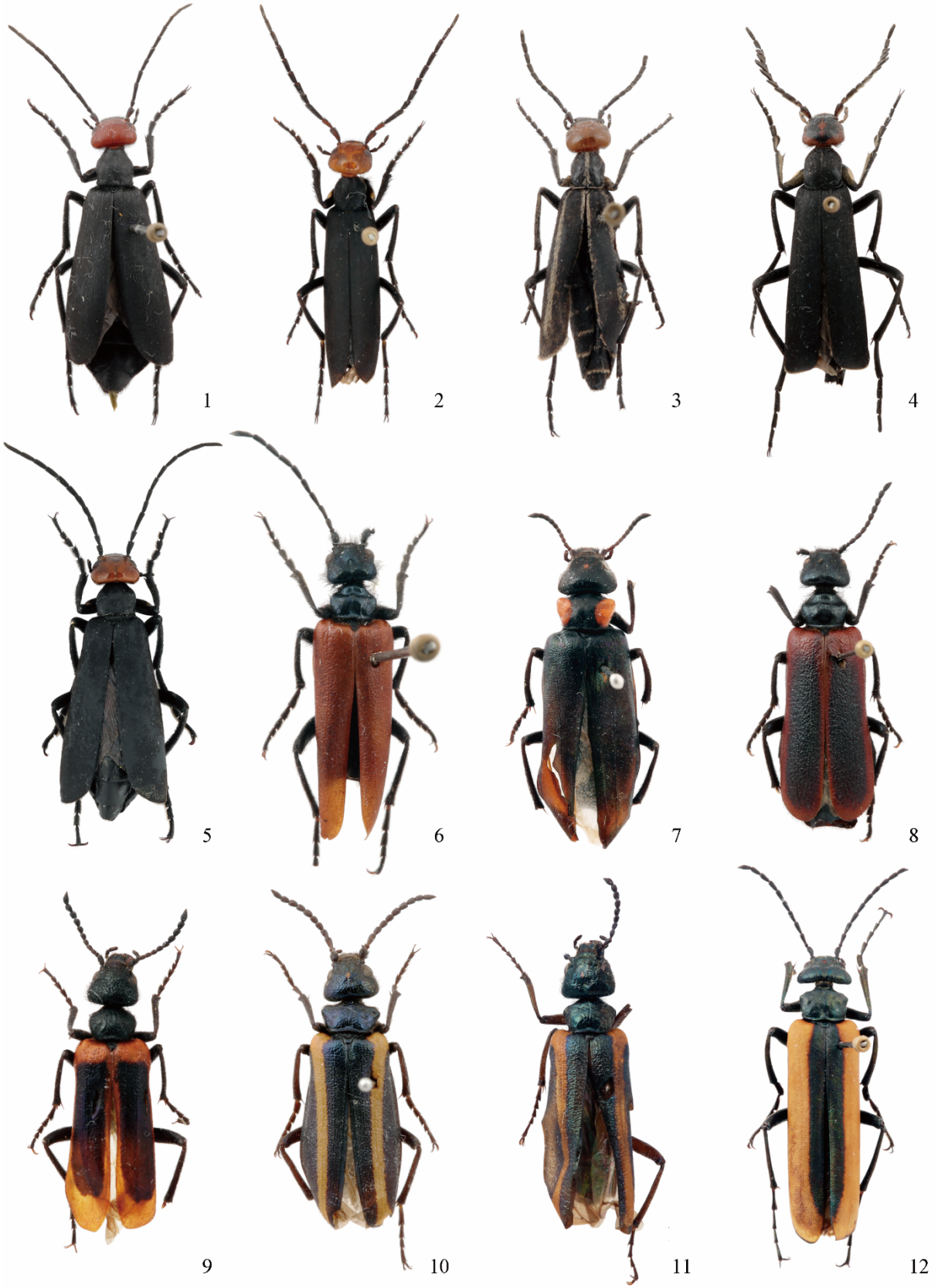
Lytta bieti Wellman, 1912: 33. Type locality: "Thibet" (Sichuan or Xizang, China). Type depository: BMNH.
Lytta (*Lytta*) *bieti*: Kaszab, 1962: 297.

Material examined from Xizang. 1 ex., Zogang, 2004.VI.10, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Wellman, 1912; Borchmann, 1917; Wang *et al*., 2014) (Zogang (MHBU)), Sichuan.

***Lytta* (*Lytta*) *roborowskyi* (Dokhtouroff, 1887)** (Fig. 11)

Cantharis roborowskyi Dokhtouroff, 1887: 343. Type locality: "Kontschun-tchu" (Xizang, China). Type depository: HNHM.
Lytta thibetana Olivier, 1888: lxi. Type locality: "Thibet: Atentse" (Xizang, China). Type depository: MNHN. Synonymized by Kaszab, 1962: 290.
Lytta roborowskyi: Escherich, 1895: 277.



Figures 1–12. Habitus, dorsal view. 1. *Denierella minutiserra* Tan. 2. *Epicauta hirticornis* (Haag-Rutenberg). 3. *Epicauta interrupta* (Fairmaire). 4. *Epicauta sibirica* (Pallas). 5. *Epicauta wellmani* Kaszab. 6. *Lytta fissicollis* (Fairmaire). 7. *Lytta satiata* Escherich. 8. *Lytta selanderi* Saha. 9. *Lytta rubrinotata* Tan. 10. *Lytta bieti* Wellman. 11. *Lytta roborowskyi* (Dokhtouroff). 12. *Lytta sifanica* Semenov.

Lytta (*Lytta*) *roborowskyi*: Selander, 1960: 27.

Material examined from Xizang. 5 exs., Amdo, 1884, Przevalsky (paratypes, HNHM).

Distribution. China: Xizang (Dokhtouroff, 1887; Olivier, 1888; Borchmann, 1917; Kaszab, 1962; Bologna, 2008; Wang *et al*., 2014) (Amdo (HNHM; Escherich, 1895), Jomda (Tan, 1981; Wang *et al*., 2003), Markam (Tan, 1981; Wang *et al*., 2003), Zogang (Tan, 1981; Wang *et al*., 2003)), Sichuan, Yunnan, Qinghai, Xinjiang.

***Lytta* (*Lytta*) *sifanica* Semenov, 1910** (Fig. 12)

Lytta tibetana Escherich, 1904: 30 (homonym). Type locality: "Tibet, Kuku-noor" (Xizang, China). Type depository: TNJM.
Lytta sifanica Semenov, 1910: 28 (replacement name).
Lytta kukunoorensis Wellman, 1910a: 24 (replacement name). Synonymized by Kaszab, 1962: 290.
Lytta (*Lytta*) *sifanica*: Selander, 1960: 27.
Lytta (*Poreospasta*) *sifanica*: Bologna, 2008: 379.

Material examined from Xizang. None.

Distribution. China: Xizang (Escherich, 1904; Borchmann, 1917; Kaszab, 1962; Bologna, 2008; Wang *et al*., 2014), Ningxia, Xinjiang.

3.3.4 Subgenus *Pseudolytta* Selander, 1960

Pseudolytta Selander, 1960: 27. Type species: *Lytta aeneiventris* Haag-Rutenberg, 1880, by original designation.

Distribution. South China.

***Lytta* (*Pseudolytta*) *taliana* Pic, 1915** (Fig. 13)

Lytta taliana Pic, 1915: 9. Type locality: "Chine méridionale: Tali" (Dali, Yunnan, China). Type depository: MNHN.
Lytta (*Pseudolytta*) *taliana*: Selander, 1960: 27.

Material examined from Xizang. 4 exs., Qamdo, 2004.VI.8, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Bologna, 2008; Wang *et al*., 2014) (Qamdo (MHBU; Tan, 1981; Wang *et al*., 2003)), Sichuan.

3.4 Genus *Meloe* Linnaeus, 1758

Meloe Linnaeus, 1758: 419. Type species: *Meloe proscarabaeus* Linnaeus, 1758, by subsequent designation (Latreille, 1810: 430).

Distribution. Worldwide (except Oceanica and South America).

3.4.1 Subgenus *Eurymeloe* Reitter, 1911

Eurymeloe Reitter, 1911: 391. Type species: *Meloe brevicollis* Panzer, 1793, by subsequent designation (Pinto & Selander, 1970: 107).

Distribution. Worldwide (except Oceanica and South America).

***Meloe* (*Eurymeloe*) *asperatus* Tan, 1981**

Meloe asperatus Tan, 1981: 415 (doubtful assignment). Type locality: West Rongbuk, Everest, Tingri, Xizang, China. Type depository: IZCAS.
Meloe (*Eurymeloe*) *asperatus*: Bologna, 2008: 400.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Tingri (Tan, 1981; Wang *et al*., 2003)).

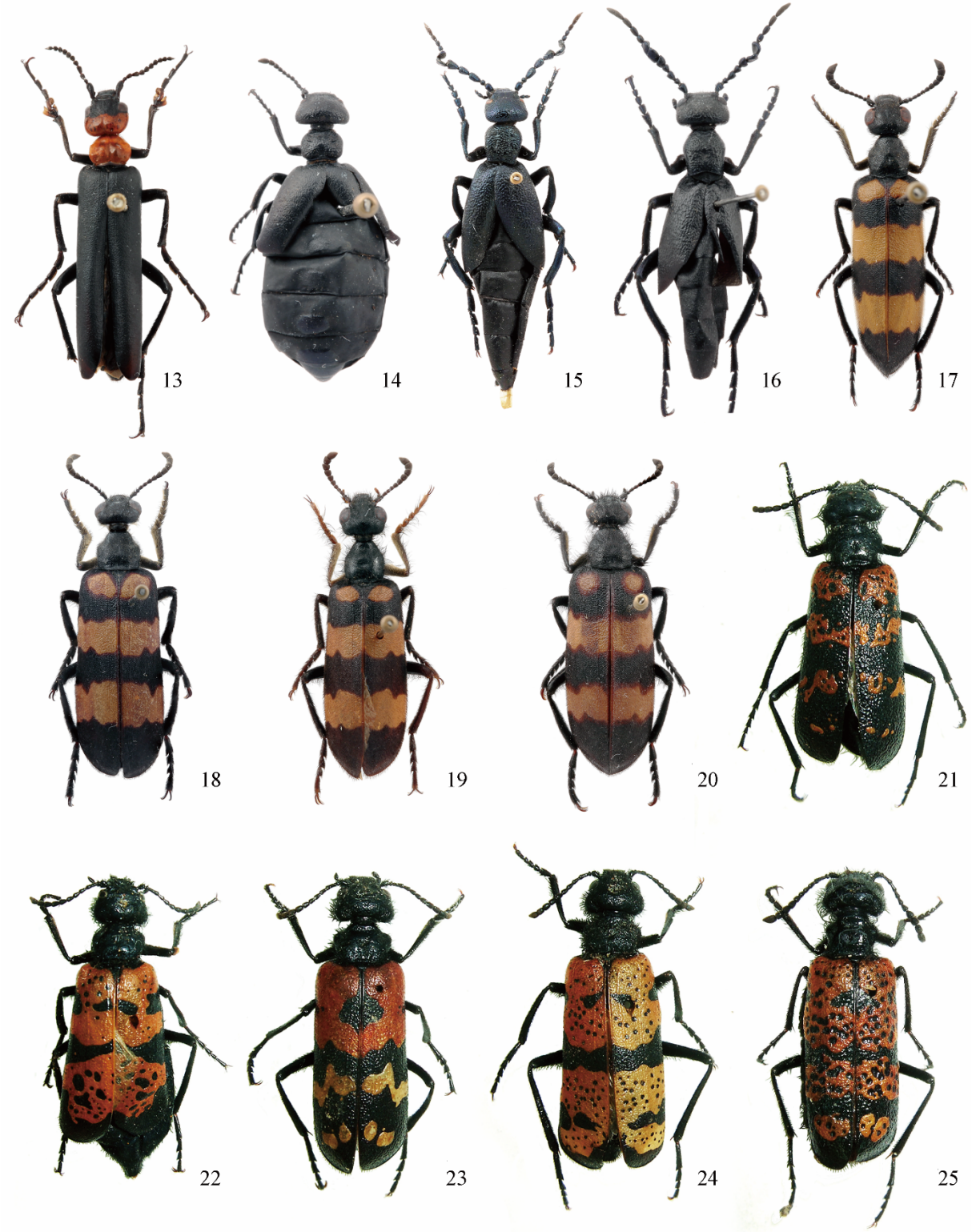
Remarks. According to the original description (Tan, 1981), the species has the shape of pronotum typical in *Eurymeloe*, but has the elytral length conspicuously shorter than other members of the subgenus *Eurymeloe*. Thus, the subgeneric assignment of this species needs to be confirmed.

***Meloe* (*Eurymeloe*) *servulus* Bates, 1879** (Fig. 14)

Meloe servulus Bates, 1879: 483. Type locality: "no locality, probably between Leh and Yarkand" (Xinjiang, China). Type depository: BMNH.
Meloe (*Eurymeloe*) *servulus*: Kaszab, 1981: 162.

Material examined from Xizang. 1 ex., Wangda, Zogang County (elev. 4200 m), 2008.VII.15, Guodong Ren *et al*. leg. (MHBU).

Distribution. China: Xizang (Bologna, 2008) (Zogang (MHBU)), Xinjiang; India; Nepal; Afghanistan.



Figures 13–25. Habitus, dorsal view. 13. *Lytta taliana* Pic. 14. *Meloe servulus* Bates. 15. *Meloe proscarabaeus proscarabaeus* Linnaeus. 16. *Meloe scabrus* **sp. nov.** 17. *Hycleus cichorii* (Linnaeus). 18. *Hycleus dorsetiferus* Pan, Ren & Wang. 19. *Hycleus medioinsignatus* (Pic). 20. *Hycleus phaleratus phaleratus* (Pallas). 21. *Pseudabris hingstoni* (Blair). 22. *Pseudabris latimaculata* Pan & Bologna. 23. *Pseudabris longiventris* (Blair). 24. *Pseudabris przewalskyi* (Dokhtouroff). 25. *Pseudabris regularis* Pan & Bologna.

3.4.2 Subgenus *Meloe* Linnaeus, 1758

Meloe Linnaeus, 1758: 419. Type species: *Meloe proscarabaeus* Linnaeus, 1758, by subsequent designation (Latreille, 1810: 430).
Proscarabaeus Schrank von Paula, 1781: 225. Type species: *Meloe proscarabaeus* Linnaeus, 1758, by absolute tautonymy.
Melittophagus Kirby, 1819: 164. Type species: *Pediculus melittae* Kirby, 1802 (= *Meloe violaceus* Marsham, 1802), by original designation.
Triungulinus Dufour, 1828: 63. Type species: *Triungulinus andrenatarum* Dufour, 1828, by original designation, by monotypy.
Cnestocera Thomson, 1859: 124. Type species: *Meloe proscarabaeus* Linnaeus, 1758, by original designation.

Distribution. Worldwide (except Oceanica and South America).

Meloe (*Meloe*) *auriculatus* Marseul, 1877

Meloe auriculatus Marseul, 1877: 480. Type locality: “Hiogo, Osaka” (Japan). Type depository: MNHN.
Meloe (*Proscarabaeus*) *auriculatus*: Kôno, 1936: 92.
Meloe (*Meloe*) *auriculatus*: Kifune *et al.*, 1973: 60.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008), Inner Mongolia; Japan.

Remarks. Bologna (2008) firstly recorded this species from Xizang, but he did not provide any details or examined materials.

Meloe (*Meloe*) *modestus* Fairmaire, 1887

Meloe modestus Fairmaire, 1887: 129. Type locality: “Yunnan” (China). Type depository: MNHN.
Meloe (*Meloe*) *modestus*: Bologna, 2008: 402.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Markam (Tan, 1981; Wang *et al.*, 2003), Zogang (Tan, 1981; Wang *et al.*, 2003)), Shanxi, Anhui, Fujian, Jiangxi, Sichuan, Yunnan.

Remarks. According to the point of M. A. Bologna (personal communication), this species should belong to an undetermined subgenus or the subgenus *Eurymeloe*. However, this result has not been published. Therefore, we reserve this species in the nominate subgenus tentatively.

Meloe (*Meloe*) *proscarabaeus proscarabaeus* Linnaeus, 1758 (Fig. 15)

Meloe proscarabaeus Linnaeus, 1758: 419. Type locality: no record. Type depository: LSUK.
Meloe punctatus Fabricius, 1792: 518 (homonym). Type locality: “Anglia Muf. Britann” (Sweden). Type depository: ZMUC. Synonymized by Brandt & Erichson, 1832: 114.
Meloe atratus Meyer, 1793: 15. Type locality: “Hildefiae capta” (Germany). Type depository: unknown. Synonymized by Brandt & Erichson, 1832: 114.
Meloe brunsvicensis Meyer, 1793: 25. Type locality: “Brunsuigiae Dom.” (Germany). Type depository: unknown. Synonymized by Brandt & Erichson, 1832: 114.
Meloe tectus Panzer, 1793: 14. Type locality: England. Type depository: ZMHB. Synonymized by Brandt & Erichson, 1832: 114.
Meloe volgensis Tauscher, 1812: 148. Type locality: “Sareptae haud frequens” (Lebanon). Type depository: unknown. Synonymized by Gemminger & Harold, 1870: 2127.
Meloe incertus Tauscher, 1812: 149. Type locality: “Sareptae” (Lebanon). Type depository: unknown. Synonymized by Gemminger & Harold, 1870: 2127.
Meloe rugipennis Mannerheim, 1825: 31. Type locality: Germany. Type depository: MZH. Synonymized by Brandt & Erichson, 1832: 114.
Triungulinus andrenatarum Dufour, 1828: 64. Type locality: “Allemague” (Germany). Type depository: MNHN. Synonymized by Bologna, 1991: 380.
Meloe cyanellus Brullé, 1832: 229. Type locality: France. Type depository: MNHN. Synonymized by Dejean, 1837: 242.
Meloe exaratus Faldermann, 1832: 210. Type locality: Iran. Type depository: ZIN. Synonymized by Borchmann, 1917: 130.
Meloe rugicollis Stephens, 1832: 66. Type locality: “London and Devonshire” (England). Type depository: BMNH. Synonymized by Gemminger & Harold, 1870: 2127.
Meloe vulgaris Stephens, 1832: 66. Type locality: “Hertfords” (England). Type depository: BMNH. Synonymized by Brandt & Erichson, 1832: 114.
Meloe megacephalus Fischer von Waldheim, 1842: 27. Type locality: “sibiria orientali” (Russia). Type depository: ZMUM. Synonymized by Bologna, 1991: 380.
Meloe cyaneus Mulsant, 1857: 47. Type locality: “Gallia” (France). Type depository: MHNL. Synonymized by Reitter, 1911: 387.

Cnestocera proscarabaeus: Thomson, 1859: 27.
Meloe proscarabaeus var. *gallicus* Baudi di Selve, 1878: 351. Type locality: "Parisiis" (France). Type depository: MIZT.
Meloe proscarabaeus var. *pannonicus* Baudi di Selve, 1878: 351. Type locality: "Illyria, ins. Lusina" (Bosnia and Herzegovina). Type depository: MIZT.
Meloe proscarabaeus var. *tauricus* Baudi di Selve, 1878: 351. Type locality: "Podolia austr. Besser, Ross. merid." (Russia). Type depository: MIZT.
Meloe proscarabaeus ab. *undulatus* Baudi di Selve, 1878: 351. Type locality: "Turcia et Creta" (Turkey and Crete of Greece). Type depository: MIZT.
Meloe crispatus Fairmaire, 1884: 173. Type locality: "Akbès" (Turkey). Type depository: MNHN. Synonymized by Bologna, 1991: 380.
Meloe (*Proscarabaeus*) *proscarabaeus*: Reitter, 1895: 4.
Meloe (*Meloe*) *proscarabaeus*: MacSwain, 1956: 97.
Meloe (*Meloe*) *proscarabaeus proscarabaeus*: Bologna, 1991: 380.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Zayü (Tan, 1981; Wang *et al*., 2003)), Hebei, Inner Mongolia, Liaoning, Anhui, Hubei, Sichuan, Gansu, Xinjiang; Mongolia; Russia; Korea; Iran; Tajikistan; Uzbekistan; Turkmenistan; Kyrgyzstan; Kazakhstan; Turkey; Azerbaijan; Georgia; Lebanon; Syria; Armenia; Israel; Jordan; Europe; Africa.

Remarks. The species is firstly recorded in Xizang by Tan (1981), and the following reports are all based on her record (Wang *et al*., 2003; Bologna, 2008). We do not find any specimens from Qinghai-Xizang Plataeu. As the species is quite similar to the new species *M. scabrus* **sp. nov.**, we doubt the validity of its distribution in Xizang. However, the hypothesis can not be confirmed until a futher study of Prof. Tan's work.

***Meloe* (*Meloe*) *scabrus* sp. nov.** (Figs 16, 26–33)

Diagnosis. Body is unicolor black, almost without metallic blue. Head and pronotum with irregular large shallow punctures, but the frons. Male antennomeres V–VII are modified, as in Figs 26–27. Pronotum is slightly longer than wide, with a shallow large depression at center, sides sinuate. Mesonotum is triangularly stretch out, clearly visible (Fig. 29). Male parameres with three sub-rounded yellow spots on ventral surface. Penial distal hook is positioned almost in the middle between apex and the proximal hook, and slightly smaller than the proximal hook.

The new species has similar pronotal punctures with four species/subspecies from the Himalayan region, *M. semicoriaceus* Fairmaire, *M. proscarabaeus proscarabaeus* Linnaeus, *M. proscarabaeus sericeorugosus* Aksentjev, and *M. arunachalae* Saha. However, *M. scabrus* is distinguishable from them by the following features: 1) antennomere VII of *M. semicoriaceus* is triangluar; antennomere VII of *M. scabrus* is sub-quadrangluar (Fig. 27); 2) antennomere V of *M. proscarabaeus proscarabaeus* and *M. proscarabaeus sericeorugosus* are not transverse widened (fig. 132c in Bolonga, 1991), and their parameres have big yellow spot on ventral surface (fig. 4 in Aksentjev, 1987); but antennomere V of *M. scabrus* is widened (Fig. 27), and parameres with three small yellow spots (Fig. 30); 3) antennomere VII of *M. arunachalae* is conspicuously wider than VI (fig. 1 in Saha, 1979); but antennomere VII of *M. scabrus* is narrower than VI (Fig. 27).

Description. Body unicolor black with, at most, antennae and legs slightly metallic blue; surface opaque. Body with sparse and very short black setae, also on ventral side, only with golden setae on tarsal pads. Body length (apex of mandibles-apex of abdomen) 20.3 mm (holotype, male), 32.4 mm (paratype, female).

Head subquadrate, approximately 0.8 as long as wide, subparallel on sides. Punctures large, irregular, and dense (its diameter conspicuously larger than the distance between punctures), but inconspicuous at center. Frons rugulose, with a finely impressed median line and an inconspicuous depression in middle, between eyes. Eye subreniform, weakly narrowed in ventral, with antero-dorsal margin slightly sinuate, just behind antennal insertion. Temple subparallel, only slightly curved posteriad and conspicuously longer than longitudinal diameter of eye. Clypeus posteriorly with large punctures and anteriorly almost smooth, posterior margin (frontoclypeal suture) obtuse-angled curved in middle. Labrum entire, anterior margin conspicuously sinuate; maxillary palpomeres slightly enlarged apically, palpomere IV slightly shorter than II; labial palpomere III conspicuously widening; mandibles curved and progressively narrowed on apical half. Antennae modified in male, but almost non modified in female (Figs 26–28): male antennomere III subequel in length to I, IV subequel in length to II, V–VII conspicuously modified (Figs 26–27), VI positioned almost in middle of V in dorsal view, VII slightly longer but narrower than VI in exteral lateral view, VIII slightly shorter than III, decreasing in width from VIII to IX, IX to XI similar in width, XI subfusiformed, nearly 1.8 as long as X; female antennomeres similar to male but slightly stronger, antennomeres V–VII not modified, only slightly wider than others, and XI subcylindrical (Fig. 28).

Pronotum (Fig. 29) slightly longer than wide (length/width approximately equal to 1.05), sides sinuate, widest at apical third, and subparallel on sides on basal third; disk with a median shallow depression in basal half; punctures similar but

slightly denser than those of head; posterior margin conspicuously sinuate in middle, fully visible from above. Mesonotum to triangularly stretch out, clearly visible (Fig. 29). Elytra obsolescently rugose, its length more than two times (ca. 2.5) of pronotal length. All tibiae with two spurs in both sexes; inner protibial spur longer than external spur, both slender; mesotibial spurs both slender either, in similar length; external metatibial spur widened, spoon-shaped at apex, longer and wider than inner one. Tarsal pads moderately developed on all legs in both sexes but absent on metatarsomere I of female.

Posterior margin of last visible sternite shallowly emarginate in male, and almost straight in female.

Parameres slightly shorter than phallobase, with three sub-rounded yellow spots in middle of parameres in ventral view (Fig. 30); apical lobe ca. 0.25 times of total length of parameres in lateral view (Fig. 31). Penis (Fig. 32) slender, distal hook positioned almost in middle between apex and proximal hook, and slightly smaller than proximal hook; endophallic hook small and slender. *Spiculum gastrale* as in Fig. 33.

Material examined. Holotype ♂, 1 ♀ paratype (presented by Prof. Aimin Shi of CWNU, deposited in MHBU) with the following labels: "2010.VIII.14 // Comai, Xizang // Yongsheng Pan & Yunchun Li leg. // Museum of China West Normal University" (white, printed, in Chinese), "HOLOTYPE (and PARATYPE respectively) // *Meloe* (*Meloe*) *scabrus* Pan & Ren det. 2016" (red or yellow, printed and handwritten). 1 ♂ paratype (MHBU) with the following labels: "2014.VIII.8 // Comai, Xizang // Guodong Ren, Xinglong Bai & Junsheng Shan leg. // Museum of Hebei University" (white, printed, in Chinese), "28°27.594'N // 91°25.643'E // Alt. 4262 m // Museum of Hebei University" (white, printed, in Chinese), "PARATYPE // *Meloe* (*Meloe*) *scabrus* Pan & Ren det. 2016" (yellow, printed and handwritten).

Distribution. China: Xizang (Comai (MHBU)).

Etymology. The specific name "*scabrus*" is a Latin adjective (= scabrous), referring to its large and irregular punctation on head and pronotum.

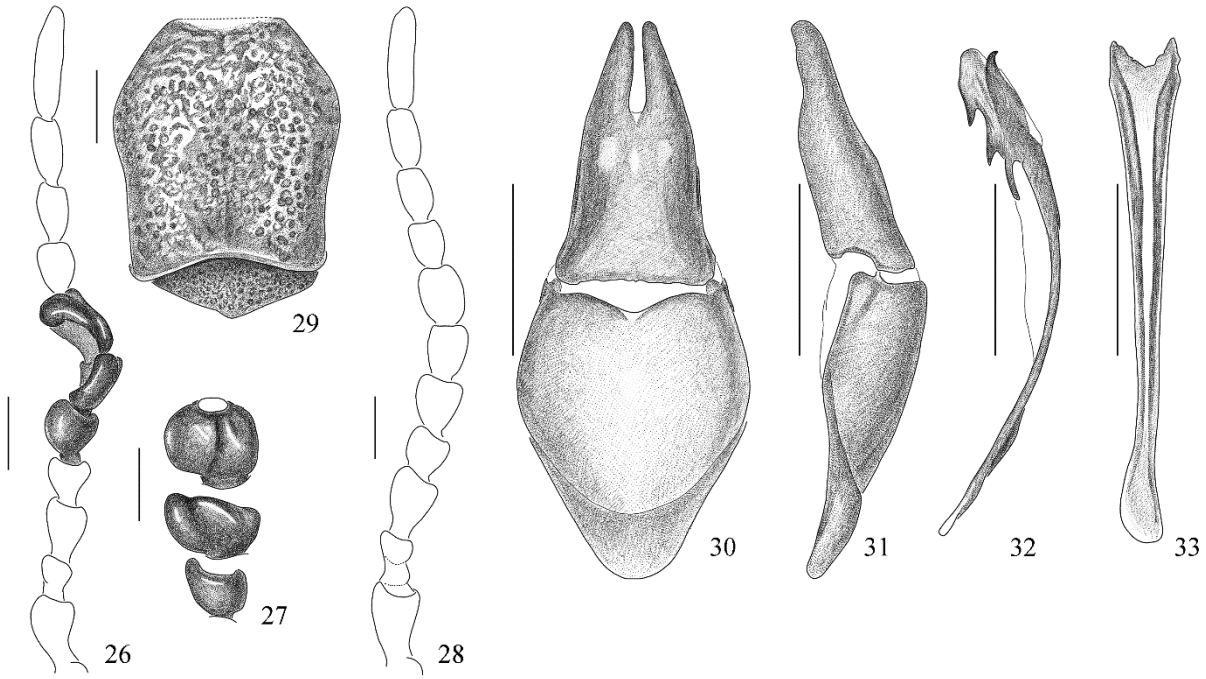


Figure 26–33. *Meloe* (*Meloe*) *scabrus* **sp. nov.** 26. Antenna, dorsal view, male. 27. Antennomeres V– VII, external lateral view. 28. Antenna, dorsal view, female. 29. Pronotum and mesonotum, dorsal view. 30. Tegmen, ventral view. 31. Tegmen, lateral view. 32. Penis, lateral view. 33. *Spiculum gastrale*, dorsal view. Scale bar: 1 mm.

Meloe (*Meloe*) *subcordicollis* Fairmaire, 1887

Meloe subcordicollis Fairmaire, 1887: 129. Type locality: "Yunnan" (China). Type depository: MNHN.
Meloe (*Meloe*) *subcordicollis*: Bologna, 2008: 402.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Nyalam (Tan, 1981; Wang *et al*., 2003)), Inner Mongolia, Jiangxi, Hunan, Guizhou, Yunnan, Gansu.

3.4.3 Subgenus *incertae sedis*

***Meloe elegantulus* Semenov & Arnoldi, 1934**

Meloe elegantulus Semenov & Arnoldi, 1934: 215. Type locality: "Tibet inter.: ad fluv. Dza-tshu systematis fl. Yang-tse-kiang" (source section of the Yangzi river, Xizang, China). Type depository: ZIN.

Material examined from Xizang. None.

Distribution. China: Xizang (Semenov & Arnoldi, 1934; Bologna, 2008).

Remarks. According to the original description of Semenov & Arnoldi (1934), the species has the shape of pronotum typical in *Meloe* (*Meloe*), but its antennomeres V–VII are not modified in both sexes, which is conspicuously different to the condition of species of the nominate subgenus of *Meloe*. Meanwhile, these two characters are not belong to any subgenus of *Meloe*. The subgeneric assignment should be confirmed in future.

***Meloe medogensis* Tan, 1988**

Meloe medogensis Tan, 1988: 292. Type locality: Mêdog, Xizang, China. Type depository: IZCAS.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Mêdog (Tan, 1988; Wang *et al*., 2003)).

Remarks. This species, described based on a single male, has a typical *Meloe* (*Meloe*) pronotum but moniliform antennae. These characters are not belong to any subgenus of *Meloe*, like *M. elegantulus*. The subgeneric assignment should be confirmed in future.

3.5 Genus *Oreomeloe* Tan, 1981

Oreomeloe Tan, 1981: 411. Type species: *Oreomeloe spinulus* Tan, 1981, by original designation, by monotypy.

Distribution. "Himalayas".

***Oreomeloe spinulus* Tan, 1981**

Oreomeloe spinulus Tan, 1981: 415. Type locality: Rongbuk Monastery, Tingri, Xizang, China. Type depository: IZCAS.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Nyalam (Tan, 1981; Wang *et al*., 2003), Tingri (Tan, 1981; Wang *et al*., 2003)).

Remarks. This species was described based on female materials. According to the original description (Tan, 1981), it is very similar to the female of *Stenoria thakkola* Schawaller, 1996. However, as the type materials are not rechecked, the validity of the species should be confirmed in future.

3.6 Genus *Hycleus* Latreille, 1817

Coryna Billberg, 1813: 73 (homonym). Type species: *Mylabris argentata* Fabricius, 1792, by original designation, by monotypy.

Hycleus Latreille, 1817: 317. Type species: *Mylabris argentata* Fabricius, 1792, by subsequent designation (Blanchard, 1836–1849: 54).

Decatoma Dejean, 1821: 74 (homonym). Type species: *Meloe lunata* Pallas, 1782, by original designation, by monotypy.

Dices Dejean, 1821: 74. Type species: *Cerocoma ocellata* Olivier, 1791, by original designation, by monotypy.

Arithmema Chevrolat, 1834: 35. Type species: *Meloe decemguttata* Thunberg, 1791, fixed by monotypy.

Decapotoma Voigts, 1902: 177 (replacement name). Type species: *Meloe lunata* Pallas, 1782, by original designation, by monotypy. (pars)

Euzonabris Kuzin, 1954: 357 (as subgenus of *Mylabris* Fabricius, 1775). Type species: *Meloe cichorii* Linnaeus, 1758, by original designation.

Sphenabris Kuzin, 1954: 361 (as subgenus of *Mylabris* Fabricius, 1775). Type species: *Meloe balteata* Pallas, 1782, by original designation.

Tigrabris Kuzin, 1954: 364 (as subgenus of *Mylabris* Fabricius, 1775). Type species: *Meloe atrata* Pallas, 1773, by original designation.

Androfoveata Pardo Alcaide, 1954: 81 (as subsection of *Mylabris* (*Gorrizia*) section *Mesoscutata* Pardo Alcaide, 1954). Type species: *Mylabris duodecimpunctata* Olivier, 1811, by original designation.

Gorrizia Pardo Alcaide, 1954: 61 (as subgenus of *Mylabris* Fabricius, 1775). Type species: *Mylabris duodecimpunctata* Olivier, 1811, by original designation.

Mesogorbata Pardo Alcaide, 1954: 78 (as section of *Mylabris* (*Gorrizia*) Pardo Alcaide, 1954; = *Sphenabris* Kuzin, 1954). Type species: *Mylabris apicipennis* Reiehe, 1866, by original designation.

Mesoscutata Pardo Alcaide, 1954: 81 (as section of *Mylabris* (*Gorrizia*) Pardo Alcaide, 1954). Type species: *Mylabris duodecimpunctata* Olivier, 1811, by original designation.

Mesotaeniata Pardo Alcaide, 1955: 4 [as section of *Mylabris* (*Gorrizia*) Pardo Alcaide, 1954]. Type species: *Meloe lunata* Pallas, 1782, by original designation.

Distribution. Asia, Europe, Africa.

***Hycleus dorsetiferus* Pan, Ren & Wang, 2011** (Fig. 18)

Hycleus dorsetiferus Pan, Ren & Wang, 2011: 185. Type locality: Xiazayü, Zayü, Xizang, China. Type depository: MHBU.

Material examined from Xizang. 13 exs., Xiazayü, Zayü, 2007.X.10, Fuming Shi leg. (the holotype and 12 paratypes; 1 MAB, the remaining MHBU); 1 ex., Xiazayü, Zayü, 2009.VII.23, Guodong Ren *et al*. leg. (paratype; MHBU).

Distribution. China: Xizang (Zayü (MAB, MHBU; Pan *et al*., 2011)), Zhejiang, Fujian, Guangxi, Sichuan, Yunnan; Laos; Thailand; India; Nepal.

***Hycleus medioinsignatus* (Pic, 1909)** (Fig. 19)

Zonabris medioinsignata Pic, 1909: 166. Type locality: "Chine: Kiantschou" (Shandong, China). Type depository: MNHN.
Mylabris medioinsignata: Borchmann, 1917: 42.
Mylabris (*Euzonabris*) *medioinsignata* ab. *phaleratoides* Kaszab, 1960: 261. Type locality: "Mongolei" (Mongolia). Type depository: NHMW.
Mylabris (*Euzonabris*) *medioinsignata*: Kaszab, 1960: 261.
Hycleus medioinsignatus: Bologna, 2008: 389.

Material examined from Xizang. 1 ex., Zayü, 2005.VII.4, Jianfeng Wang leg. (MHBU); 1 ex., Xiazayü, 2005.VII.12, Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Zayü (MHBU; Pan *et al*., 2011)), Beijing, Tianjin, Hebei, Shanxi, Fujian, Shandong, Henan, Hubei, Guangxi, Sichuan, Guizhou, Yunnan; Mongolia; India; Nepal.

***Hycleus phaleratus phaleratus* (Pallas, 1782)** (Fig. 20)

Meloe phalerata Pallas, 1782: 78. Type locality: "orae cisgangeticae Indiae" (India). Type depository: ZIN, but destroyed by fire.
Mylabris sidae Fabricius, 1798: 120. Type locality: "Cap. Bon. Spei." (South Africa, wrong record). Type depository: ZMUC. Synonymized by after Billberg, 1813: 7.
Mylabris patruelis Sturm, 1843: 172. Type locality: "Cap. bon. Sp." (South Africa, wrong record). Type depository: ZSM. Synonymized by Gemminger & Harold, 1870: 2140.
Mylabris moquiniana Ferrer, 1859: 540. Type locality: "China". Type depository: unknown. Synonymized by Gemminger & Harold, 1870: 2140.
Mylabris phalerata: Gemminger & Harold, 1870: 2140.
Zonabris phalerata: Heyden, 1886: 287.
Mylabris (*Euzonabris*) *phalerata*: Kuzin, 1954: 358.
Mylabris (*Euzonabris*) *phalerata* ab. *irigator* Kaszab, 1960: 259. Type locality: "Yunnan: Kingtung" (China). Type depository: IZCAS.
Hycleus phaleratus phaleratus: Bologna, 2008: 387.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008; Pan *et al*., 2011) (Mêdog (Tan, 1981, 1988; Wang *et al*., 2003), Zayü (Tan, 1981, 1988; Wang *et al*., 2003)), Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Henan, Hubei, Guangdong, Guangxi, Hainan, Sichuan, Guizhou, Yunnan, Taiwan; Thailand; India; Nepal; Sri Lanka; Indonesia; Pakistan.

Remarks. This species was firstly recorded in Xizang by Tan (1981), and the following reports are all based on her record (Tan, 1988; Wang *et al*., 2003; Bologna, 2008; Pan *et al*., 2011). No material was examined. As the *Hycleus phaleratus* group species are very similar in each other on elytral pattern (details see Pan *et al*., 2014), we doubt the validity of its distribution in Xizang. However, the hypothesis can not be confirmed until a futher study of Prof. Tan's work.

3.7 Genus *Mylabris* Fabricius, 1775

Mylabris Fabricius, 1775: 261. Type species: *Meloe cichorii* Linnaeus, 1758, by subsequent designation (Latreille, 1810: 430).

Distribution. Asia, Europe, Africa.

3.7.1 Subgenus *Chalcabris* Kuzin, 1954

Chalcabris Kuzin, 1954: 346. Type species: *Meloe festiva* Pallas, 1773, by original designation.

Distribution. Asia (Palaearctic region), Europe.

***Mylabris* (*Chalcabris*) *bistillata* Tan, 1981 stat. rev.**

Mylabris bistillata Tan, 1981: 407. Type locality: Markam, Xizang, China. Type depository: IZCAS.
Hycleus bistillatus: Bologna, 2008: 385.

Material examined from Xizang. None.

Distribution. China: Xizang (Bologna, 2008) (Gonjo (Tan, 1981; Wang *et al*., 2003), Jomda (Tan, 1981; Wang *et al*., 2003), Markam (Tan, 1981; Wang *et al*., 2003)), Sichuan.

Remarks. Bologna (2008) transferred this species to the genus *Hycleus*. However, according to its original description, this species should be transferred back to the genus *Mylabris*, subgenus *Chalcabris*.

Additionally, we reexamined some nominated specimens (not from Xizang) from Prof. Tan (IZCAS), which are actually the misidentification of *Mylabris* (*Chalcabris*) *splendidula* (Pallas, 1781). Thus, the validity of *M. bistillata* should be re-confirmed after reexamined the types.

3.7.2 Subgenus *Micrabris* Kuzin, 1954

Micrabris Kuzin, 1954: 351. Type species: *Mylabris geminate* Fabricius, 1798, by original designation.
Mesolaevigata Pardo Alcaide, 1954: 68. Type species: *Mylabris geminate* Fabricius, 1798, by original designation.

Distribution. Asia (Palaearctic region), Europe, Africa.

***Mylabris (Micrabris) macilenta* Marseul, 1872**

Mylabris macilenta Marseul, 1872: 489. Type locality: “Indes orientales, Himalaya” (India). Type depository: MNHN.
Mylabris (*Chrysabris*) *macilenta*: Kuzin, 1954: 349.
Mylabris (*Micrabris*) *macilenta*: Bologna, 2008: 395.

Material examined from Xizang. None.

Distribution. China: Xizang (Blair, 1927; Bologna, 2008) (Gyirong (Tan, 1981; Wang *et al*., 2003), Mainling (Wang *et al*., 2003), Nyingchi (Wang *et al*., 2003)); India; Nepal; Bhutan; Pakistan.

3.8 Genus *Pseudabris* Fairmaire, 1894

Pseudabris Fairmaire, 1894: 222. Type species: *Pseudabris tigriodera* Fairmaire, 1894, by original designation, by monotypy.

Distribution. Qinghai-Xizang Plateau.

***Pseudabris hingstoni* (Blair, 1927)** (Fig. 21)

Mylabris hingstoni Blair, 1927: 254. Type locality: “Tibet: Tingri, Shekkar, Kyishong, Chiblung, Tinki Dzong, Ling Ka, Kampa Dzong (syntype)” (Xizang, China). Type depository: BMNH.
Mylabris hingstoni var. *waltoni* Blair, 1927: 255. Type locality: “Tibet: Lhasa, Chaksam (syntype)” (Xizang, China). Type depository: BMNH.
Pseudabris hingstoni: Gupta, 1971: 6.

Material examined from Xizang. 2 exs., Kyishong (elev. 4420 m), 1924.VII.10, Maj. R. W. G. Hingston leg. (syntype; BMNH); 3 exs., Tinki Dzong (elev. 4267 m), 1924.VII.14, Maj. R. W. G. Hingston leg. (syntype; BMNH); 3 exs., Ling-Ka (elev. 4267 m), 1924.VII.15, Maj. R. W. G. Hingston leg. (syntype; BMNH); 2 exs., Transhimalaya, SE Tibet, Lhasa (elev. 3600 m), 1989.VIII.4, Dickoré leg. (MAB); 1 ex., Transhimalaya, SE Tibet, NE Lhasa, alp. Spiraea-Gebüsch, 1989.VIII.2, Kuhle leg. (MAB); 3 exs., Lhasa (elev. 4000 m), 2002.VI.30, Guodong Ren leg. (MHBU); 8 exs., opposite bank of Lhasa River (elev. 3380 m), 2003.VIII.23, Guodong Ren leg. (MHBU); 4 exs., Dint. Yanbajing, slope of Nyanchen Thanglha (elev. 4300 m), 1992.VI.25, Sbordoni & De Pasquale leg. (MAB); 2 exs., between Lalha and Tingri, 1993.VI (MAB); 126 exs., Tingri, 2005.VII.26, Aimin Shi leg. (4 exs. SJZZ, the remaining MHBU); 8 exs., Lulu, Xiegeer, Tingri (28°36.680'N, 87°07.775'E; elev. 4273 m), 2014.VII.24, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 4 exs., Nan Mountain, Lhazê, 2002.VI.28, Yibin Ba & Yang Yu leg. (MHBU); 16 exs., Zong Mountain, Gyangzê, 2002.VII.2, Yibin Ba & Yang Yu leg. (MHBU); 7 exs., Cheren, Gyangzê (28°51.755'N, 89°42.481'E; elev. 4132 m), 2014.VIII.6, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 1 ex., Xigazê, 2004.VII.2, Yibin Ba & Aimin Shi leg. (MHBU); 98 exs., Bianxiong, Xigazê (29°18.678'N, 89°07.182'E; elev. 3804 m), 2009.VIII.1, Guodong Ren *et al*. leg. (MHBU); 138 exs., Amudui, Xigazê

(29°09.414'N, 89°01.536'E; elev. 3822 m), 2009.VIII.1, Guodong Ren *et al*. leg. (5 exs. SJZZ, 10 exs. NXU, the remaining MHBU); 10 exs., Donggar, Xigazê, 2009.IX.2, Yongchao Zhi & Jiantao Xiao leg. (MHBU); 26 exs., Saga, 2004.VII.9, Yibin Ba & Aimin Shi leg. (1 ex. SJZZ, the remaining MHBU); 12 exs., Zhongba, 2004.VII.9–10, Yibin Ba & Aimin Shi leg. (MHBU); 1 ex., Coqên, 2004.VII.17, Yibin Ba & Aimin Shi leg. (MHBU); 1 ex., Kangmar, 2009.VIII.2, Guodong Ren *et al*. leg. (MHBU); 1 ex., Gala, Kangmar (28°14.703'N, 89°23.073'E; elev. 4500 m), 2015.VIII.18, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 5 exs., Gala, Kangmar (28°14.179'N, 89°11.116'E; elev. 4541 m), 2015.VIII.19, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 45 exs., Namuling, 2009.VIII.2, Guodong Ren *et al*. leg. (MHBU); 50 exs., Yangjingxue, Yangbajing, Damxung (29°59.127'N, 90°24.870'E; elev. 4332 m), 2014.VII.23, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 1 ex., Menbu, Nyalam (28°38.818'N, 86°07.754'E; elev. 4708 m), 2014.VII.28, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 1 ex., Lumakewu Bridge, Rongbo, Nyalam (28°45.383'N, 85°34.440'E; elev. 4605 m), 2014.VII.30, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 7 exs., Shenla, Nagarzê (28°52.812'N, 90°22.356'E; elev. 4605 m), 2014.VIII.6, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 1 ex., Jiongbuqiong, Xiajiang, Qusum (29°02.048'N, 92°19.363'E; elev. 4365 m), 2014.VIII.10, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 2 exs., Qiongzi, Dinggyê (28°10.181'N, 88°08.993'E; elev. 4465 m), 2015.VIII.20, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 1 ex., Changlong, Gamba (28°13.805'N, 88°19.144'E; elev. 4447 m), 2015.VIII.20, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU).

Distribution. China: Xizang (Bologna, 2008) (Coqên (MHBU; Pan *et al.*, 2013), Damxung (MHBU), Dinggyê (MHBU), Gamba (MHBU), Gyangzê (MHBU; Pan *et al.*, 2013), Kangmar (MHBU; Pan *et al.*, 2013), Lhasa (MAB, MHBU; Blair, 1927; Pan *et al.*, 2013), Lhazê (MHBU; Pan *et al.*, 2013), Nagarzê (MHBU; Tan, 1981; Wang *et al*., 2003), Namuling (MHBU; Pan *et al.*, 2013), Nyalam (MHBU), Qusum (MHBU), Saga (MHBU; Pan *et al.*, 2013), Tingri (MAB, MHBU; Blair, 1927; Pan *et al.*, 2013), Xigazê (MHBU; Pan *et al.*, 2013), Yangbajain (MAB; Pan *et al.*, 2013), Zhanang (Tan, 1981; Wang *et al*., 2003), Zhongba (MHBU; Pan *et al.*, 2013)).

***Pseudabris latimaculata* Pan & Bologna, 2013** (Fig. 22)

Pseudabris latimaculata Pan & Bologna in Pan *et al.*, 2013: 142. Type locality: "China: Markam, Xizang". Type depository: MHBU.

Material examined from Xizang. 1 ex., Markam, 2004.VII.12, Yibin Ba & Aimin Shi leg. (holotype; MHBU); 2 exs., Jomda, 2004.VII.6, Yibin Ba & Aimin Shi leg. (paratypes; MHBU).

Distribution. China: Xizang (Jomda (MHBU; Pan *et al.*, 2013), Markam (MHBU; Pan *et al.*, 2013)), Qinghai.

***Pseudabris longiventris* (Blair, 1927)** (Fig. 23)

Mylabris longiventris Blair, 1927: 253. Type locality: "Tibet: Tingri, Shekkar, Kyishong, Chiblung, Tinki Dzong (syntype)" (Xizang, China). Type depository: BMNH.

Pseudabris longiventris: Bologna & Pinto, 2002: 2068.

Material examined from Xizang. 6 exs., Tingri (elev. 4572 m), 1924.VII.6, Maj. R. W. G. Hingston leg. (syntype; BMNH); 36 exs., Tingri, 2004.VII.3, Yibin Ba & Aimin Shi leg. (2 exs. NXU, the remaining MHBU); 7 exs., Tingri, 2005.VII.26, Aimin Shi leg. (MHBU); 1 ex., Transhimalaya, SE Tibet, NE Lhasa, Lhasatal Rhododrendron rivale-Kobresia pygmaea-Rasen (elev. 4900 m), 1989.VIII.2, Kuhle leg. (MAB); 15 exs., Lhasa near Sera, Lhasa dint. Sera, W of Lhasa (elev. 3650 m), 1992.VI.22–26, Sbordoni leg. (MAB); 4 exs., Lhasa (elev. 4000 m), 1995.VI.18, Mrabal leg. (MAB); 1 ex., Dong Mountain, Lhasa, 2002.VI.27, Yibin Ba & Yang Yu leg. (MHBU); 56 exs., Lhasa (elev. 4000 m), 2002.VI.30, Guodong Ren leg. (3 exs. NXU, the remaining MHBU); 1 ex., opposite bank of Lhasa River, 2003.VIII.23, Guodong Ren leg. (MHBU); 2 exs., Luru, Lhazê, 2002.VI.29, Yinbin Ba & Yang Yu leg. (NXU); 1 ex., Zong Mountain, Gyangzê, 2002.VII.2, Yinbin Ba & Yang Yu leg. (NXU); 1 ex., Qüxü, 2002.VII.6, Guodong Ren leg. (MHBU); 2 exs., Zogang, 2004.VI.10, Yibin Ba & Aimin Shi leg. (MHBU); 34 exs., Lhünzê, 2004.VI.26–27, Yibin Ba & Aimin Shi leg. (2 exs. NXU, the remaining MHBU); 2 exs., Xigazê, 2004.VII.2, Yibin Ba & Aimin Shi leg. (1 ex. MHBU, 1 ex. NXU); 6 exs., Bianxiong, Xigazê (29°18.678'N, 89°07.182'E; elev. 3804 m), 2009.VIII.1, Guodong Ren *et al*. leg. (MHBU); 6 exs., Saga, 2004.VII.9, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Bologna, 2008) (Comai (Tan, 1981; Wang *et al*., 2003), Damxung (Tan, 1981; Wang *et al*., 2003), Gyangzê (MHBU; Blair, 1927; Pan *et al*., 2013), Lhasa (MAB, MHBU; Tan, 1981; Wang *et al*., 2003; Pan *et al*., 2013), Lhazê (MHBU; Tan, 1981; Wang *et al*., 2003; Pan *et al*., 2013), Lhünzê (MHBU; Pan *et al*., 2013), Lhünzhub (Tan, 1981; Wang *et al*., 2003), Nagarzê (Tan, 1981; Wang *et al*., 2003), Qüxü (MHBU; Pan *et al*., 2013), Saga (MHBU; Pan *et al*., 2013), Tingri (BMNH, MHBU; Blair, 1927; Pan *et al*., 2013), Xigazê (MHBU; Pan *et al*., 2013), Yangbajain (Tan, 1981; Wang *et al*., 2003), Zhanang (Tan, 1981; Wang *et al*., 2003), Zogang (MHBU; Pan *et al*., 2013)).

***Pseudabris przewalskyi* (Dokhtouroff, 1887)** (Fig. 24)

Zonabris przewalskyi Dokhtouroff, 1887: 341. Type locality: "Dans les montagnes longeant les rivières Kontschun-tchu, Tschumtschu-oùmà, By-djune" (Xizang, China). Type depository: unknown.

Mylabris goutelli Fairmaire, 1889: 48. Type locality: "Thibet, Atentse" (Xizang, China). Type depository: MNHN. Synonymized by Borchmann, 1917: 46.

Mylabris przewalskyi: Sumakov, 1915: 54.

Pseudabris przewalskyi: Kuzin, 1954: 371.

Material examined from Xizang. 1 ex., Rawu, Baxoi, 2004.VI.16, Yibin Ba & Aimin Shi leg. (MHBU); 2 exs., Jida, Baxoi (elev. 4200 m), 2008.VII.14, Guodong Ren *et al*. leg. (MHBU); 2 exs., Jida, Baxoi, 2009.VII.22, Guodong Ren *et al.* leg. (1 ex. MHBU, 1 ex. NXU); 2 exs., Sumzom, Bowo (elev. 3320 m), 2008.VII.14, Guodong Ren *et al*. leg. (MHBU); 1 ex., Genni, Bowo (29°45'N, 96°05.4'E; elev. 2942 m), 2013.VII.9, Yong Zhou leg. (MAB); 12 exs., Qamdo, 2004.VI.7–8, Yibin Ba & Aimin Shi leg. (2 exs. NXU, the remaining MHBU); 7 exs., Northern Qamdo, 2009.VIII.3, Jiantao Xiao & Yongchao Zhi leg. (1 ex. NXU, the remaining MHBU); 1 ex., Qamdo, Karuo, Wayue (30°53.095′N, 97°20.956′E; elev. 3160 m), 2016.VIII.10, Xiumin Li *et al.* leg. (MHBUa); 1 ex., Jomda, 2004.VII.6, Yibin Ba & Aimin Shi leg. (MHBU); 2 exs., Zogang, 2004.VI.10, Yibin Ba & Aimin Shi leg. (MHBU).

Distribution. China: Xizang (Borchmann, 1917; Bologna, 2008) (Baxoi (MHBU; Pan *et al.*, 2013), Bowo (MHBU; Pan *et al.*, 2013), Burang (Tan, 1981; Wang *et al*., 2003), Chag'yab (Tan, 1981; Wang *et al*., 2003), Gonjo (Tan, 1981; Wang *et al*., 2003), Gyangzê (Blair, 1927), Gyirong (Tan, 1981), Jomda (MHBU; Tan, 1981; Wang *et al*., 2003; Pan *et al*., 2013), Kangmar (Tan, 1981; Wang *et al*., 2003), Markam (Tan, 1981, 1992; Wang *et al*., 2003), Nagarzê (Tan, 1981; Wang *et al*., 2003), Ngamring (Tan, 1981; Wang *et al*., 2003), Nyalam (Tan, 1981), Qamdo (MHBU, MHBUa; Tan, 1981; Wang *et al*., 2003; Pan *et al.*, 2013), Saga (Tan, 1981; Wang *et al*., 2003), Tingri (Blair, 1927; Tan, 1981), Xigazê (Tan, 1981), Zogang (MHBU; Tan, 1981; Wang *et al*., 2003; Pan *et al*., 2013)), Sichuan, Qinghai; India.

***Pseudabris regularis* Pan & Bologna, 2013** (Fig. 25)

Pseudabris regularis Pan & Bologna in Pan *et al.*, 2013: 143. Type locality: "Xizang of China: Amudui, Xigazê". Type depository: MHBU.

Material examined from Xizang. 1 ex., Xegar. Sotto Passo Pang La. Bivio Rongbuk (elev. 4000 m), 1992.VII.2, Sbordoni & Depasquale leg. (MAB); 24 exs., Nan Mountain, Lhazê, 2002.VI.28, Yibin Ba & Yang Yu leg. (paratypes; MHBU); 10 exs., Luru, Lhazê, 2002.VI.29, Yibin Ba & Yang Yu leg. (paratypes; MHBU); 1 ex., Mt. Cuolashan, Lhazê (29°04.238'N, 87°59.842'E; elev. 4435 m), 2014.VII.24, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 10 exs., Zong Mountain, Gyangzê, 2002.VII.2, Yibin Ba & Yang Yu leg. (paratypes; MHBU); 6 exs., Cheren, Gyangzê (28˚51.755'N, 89˚42.481'E; elev. 4132 m), Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 3 exs., Lhünzê, 2004.VI.26–27, Yibin Ba & Aimin Shi leg. (paratypes; MHBU); 53 exs., Xigazê, 2004.VII.2, Yibin Ba & Aimin Shi leg. (paratypes; MHBU); 34 exs., Amudui, Xigazê (29°09.414'N, 89°01.536'E; elev. 3822 m), 2009.VIII.1, Guodong Ren *et al.* leg. (the holotype and 33 paratypes; 4 exs. MAB, the remaing MHBU); 41 exs., Bianxiong, Xigazê (29°18.678'N, 89°07.182'E; elev. 3804 m), 2009.VIII.1, Guodong Ren *et al*. leg. (paratypes; MHBU); 3 exs., Xigazê, 2009.VIII.2, Guodong Ren *et al*. leg. (paratypes; MHBU); 11 exs., Xigazê (29°13.766'N, 88°53.009'E; elev. 3870 m), 2014.VII.26, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 13 exs., Kadui, Qumei, Xigazê (29°09.079'N, 88°37.805'E; elev. 4010 m), 2014.VII.26, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 2 exs., Saga, 2004.VII.9, Yibin Ba & Aimin Shi leg. (paratypes; MHBU); 2 exs., Tingri, 2004.VII.3, Yibin Ba & Aimin Shi leg. (paratypes; MHBU); 1 ex., Quluo, Tingri (28°34.815'N, 87°25.462'E; elev. 4216 m), 2015.VIII.20, Guodong Ren, Wenjun Hou & Junsheng Shan leg. (MHBU); 4 exs., Namling, 2009.VIII.2, Guodong Ren *et al.* leg. (paratypes; MHBU); 1 ex., Tulong, Nyalam (28°25.841'N, 86°08.840'E; elev. 4478 m), 2014.VII.30, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 2 exs., Gala, Kangmar (28°14.703'N, 89°23.073'E; elev. 4500 m), 2015.VIII.18, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU); 4 exs., Changlong, Gamba (28°13.805'N, 88°19.144'E; elev. 4447 m), 2015.VIII.20, Guodong Ren, Xinglong Bai & Junsheng Shan leg. (MHBU).

Distribution. China: Xizang (Gamba (MHBU), Gyangzê (MHBU; Pan *et al.*, 2013), Kangmar (MHBU), Lhazê (MHBU; Pan *et al.*, 2013), Lhünzê (MHBU; Pan *et al.*, 2013), Namling (MHBU; Pan *et al.*, 2013), Nyalam (MHBU), Saga (MHBU; Pan *et al.*, 2013), Tingri (MHBU; Pan *et al.*, 2013), Xigazê (MHBU; Pan *et al.*, 2013)), Qinghai.

***Pseudabris tigriodera* Fairmaire, 1894**

Pseudabris tigriodera Fairmaire, 1894: 222. Type locality: "Pa-Tsé-Fang, Moenia, Thibet" (Xizang, China). Type depository: MNHN.

Material examined from Xizang. None.

Distribution. China: Xizang (Fairmaire, 1894; Borchmann, 1917; Bologna, 2008; Pan *et al*., 2013), Sichuan.

3.9 Species wrongly recorded in Xizang

***Lytta* (*Lytta*) *battonii* Kaszab, 1962**

Lytta (*Lytta*) *battonii* Kaszab, 1962: 291. Type locality: "Nordost-Thibet: Nan-Shan, Kuku-Usu" (Qinghai, China). Type depository: ZIN, HNHM.

Lytta (*Asiolytta*) *battonii*: Bologna, 2008: 378.

Distribution. China: Sichuan, Qinghai.

Remarks. The holotype and paratypes of this species are from Qinghai-Xizang Plateau (all from Qinghai except one paratype from Sichuan) (Kaszab, 1962). Wang *et al*. (2014) wrongly treated the Qinghai-Xizang Plateau as equal to Xizang. The species actually does not occur in Xizang.

***Lytta* (*Lytta*) *kryzhanovskyi* Kaszab, 1962**

Lytta (*Lytta*) *kryzhanovskyi* Kaszab, 1962: 292. Type locality: "Nordost-Thibet: zwischen Botan und Pen-Tschalu" (Qinghai, China). Type depository: ZIN, HNHM.

Distribution. China: Qinghai.

Remarks. The holotype and paratypes of this species are from Qinghai-Xizang Plateau (all from Qinghai) (Kaszab, 1962). Wang *et al*. (2014) wrongly treated the Qinghai-Xizang Plateau as equal to Xizang. The species actually does not occur in Xizang.

***Hycleus cichorii* (Linnaeus, 1758)** (Fig. 17)

Meloe cichorii Linnaeus, 1758: 419. Type locality: "Cichoriis totius orientis" (China). Type depository: LSUK.

Mylabris cichorii: Fabricius, 1775: 261.

Mylabris (*Euzonabris*) *cichorii*: Kuzin, 1954: 358.

Mylabris cichorii ab. *formosensis* Kaszab, 1959: 438. Type locality: "Formosa: Kagi" (Taiwan, China). Type depository: HNHM.

Mylabris (*Euzonabris*) *cichorii* ab. *postscutellomaculata* Kaszab, 1960: 259. Type locality: "Kwangtung: Kwangchou" (Guangdong, China). Type depository: IZCAS.

Hycleus cichorii: Bologna, 2008: 386.

Distribution. China: Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Henan, Hubei, Hunan, Guangdong, Guangxi, Hainan, Sichuan, Guizhou, Yunnan, Taiwan, Hong Kong; Japan; Vietnam; Laos; Thailand; India; Nepal.

Remarks. Pan *et al.* (2011) wrongly recorded this species in Xizang. It was actually a clerical error.

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